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DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

[Docket No. PHMSA-2022-0043; Notice No. 2022-06]

Hazardous Materials: Request for Information on Electronic Hazard Communication Alternatives

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), Department of Transportation (DOT).

ACTION: Request for information.

SUMMARY: PHMSA seeks input on the potential use of electronic communication as an alternative to current, physical documentation requirements for hazard communication.

DATES: Interested persons are invited to submit comments on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. Comments received after that date will be considered to the extent practicable.

ADDRESSES: You may submit comments identified by the Docket Number PHMSA-2021-0043 by any of the following methods:

- *Federal eRulemaking Portal*: http://www.regulations.gov. Follow the instructions for submitting comments.

- *Fax*: 1-202-493-2251.

- *Mail*: Docket Management System; U.S. Department of Transportation, West Building, Ground Floor, Room W12–140, Routing Symbol M–30, 1200 New Jersey Avenue, SE, Washington, DC 20590.

- *Hand Delivery*: Docket Management System; Room W12–140 on the ground floor of the West Building, 1200 New Jersey Avenue, SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name and Docket Number (PHMSA-2022-0043) for this notice. To avoid duplication, please use only one of these four methods. All comments received will be posted without change to the Federal Docket Management System (FDMS) and will include any personal information you provide.

Docket: For access to the dockets to read background documents or comments received, go to http://www.regulations.gov or DOT's Docket Operations Office (see **ADDRESSES**).

Privacy Act: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public. DOT posts these comments, without edit, including any personal information the commenter provides, to http://www.regulations.gov, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at http://www.dot.gov/privacy.

Confidential Business Information (CBI): CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this notice contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this notice, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." PHMSA will treat such marked submissions as confidential under FOIA, and they will not be placed in the public docket of this notice. Submissions containing CBI should be sent to Eamonn Patrick, Standards and Rulemaking Division, (202) 366-8553, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001. PHMSA will place any commentary not specifically designated as CBI into the public docket for this notice.

FOR FURTHER INFORMATION CONTACT: Eamonn Patrick, Standards and Rulemaking Division, (202) 366-8553, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.

SUPPLEMENTARY INFORMATION:

I. Executive Summary

PHMSA is considering revisions to the Hazardous Materials Regulations (HMR), which would authorize a performance-based electronic communication alternative to the existing physical, paper-based hazard communication requirements. This revision is meant to facilitate and promote the use of electronic hazard communication. For the purpose of this request for information (RFI), "hazard communication" means shipping papers, train consists, dangerous goods manifests, notifications to the pilot in command, and emergency response information, as well as associated administrative documentation including Department of Transportation (DOT) Special Permits (SPs), approvals, and registrations.

The HMR currently require that hazard communication be maintained as physical, printed documents during transportation. However, widely adopted technologies could supplement, or replace, the existing paper-based hazard communication system, and offer opportunities for improved emergency response and oversight, as well as increased efficiency in the operations of transportation networks. PHMSA anticipates that electronic communication would improve transportation safety, efficiency, and effectiveness by providing electronic access to the same required information currently contained in hazard communication documents. With this RFI, PHMSA seeks your input, to help determine the most effective mechanisms and potential impediments for implementing electronic hazard communication.

II. Background

PHMSA's mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. To achieve this mission, PHMSA establishes national policy, sets and enforces HMR standards, educates, and conducts research to prevent hazardous materials incidents. In doing so, PHMSA

collaborates closely with other Federal agencies and operating administrations, including the Federal Motor Carriers Safety Administration, Federal Railroad Administration, Federal Aviation Administration, and United States Coast Guard. Federal hazardous materials law authorizes the Secretary to "prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce" 49 U.S.C. § 5103(b)(1). The Secretary has delegated this authority to PHMSA in 49 CFR § 1.97(b).

The HMR are designed to achieve three primary goals:

(1) Ensure that hazardous materials are packaged and handled safely and securely during transportation.

(2) Effectively communicate the hazards of the materials being transported to transportation workers and emergency responders.

(3) Minimize the consequences of an accident or incident, should one occur.

The HMR provide hazard communication requirements for the transport of hazardous materials in subparts C through G of part 172 of the HMR, with modal specific requirements in parts 174 to 177. This RFI addresses the following topics:

Citation	Topic
Part 172, subpart C	Shipping papers
Part 172, subpart G	Emergency response information
§ 174.26	Train consists
§ 175.33	Notifications to the pilot in command
§ 176.30	Dangerous cargo manifests
§ 177.817	Shipping papers in motor vehicles

This RFI also addresses documents that accompany shipments that may not have a direct emergency response purpose, but either commonly accompany shipments or are present on transportation vehicles, including DOT SPs, approvals, and registrations.

The HMR requires that all copies of the shipping papers used for transportation purposes must be legible and printed (manually or mechanically) in English (see § 172.201(a)(2)). Section 172.201(a)(5) authorizes rail carriers to accept shipping papers information either telephonically (e.g., voice communications and facsimiles) or by electronic data interchange (EDI), however the train consist containing the hazardous materials description carried by the train crew must still be maintained as a physical document (see § 174.26). Emergency response information is required to be maintained in the same manner as a shipping paper, i.e., printed manually or mechanically in English (see § 172.602(c)).

Prior to this RFI, PHMSA considered various alternatives to current requirements for paper-based hazardous materials documentation, primarily focusing on electronic shipping papers. Previous activities related to electronic shipping papers include:

(1) The Environmental Protection Agency (EPA) Hazardous Waste E-Manifest,

(2) Current DOT-SPs for electronic hazard communications information used in highway and rail transportation,

(3) The Hazardous Materials Automated Cargo Communications for Efficient and Safety Shipments (HM-ACCESS) pilot project,

(4) Integrated Communications, Information and Support Platform for Hazardous Materials Stakeholders Across Multiple Modes (HazSMART) research, and

(5) Transport Canada's (TC) ongoing Regulatory Sandbox on Electronic Shipping Documents.

These activities provide a baseline for PHMSA's development of this RFI. All documents discussed here are available for review in the RFI docket.

EPA Hazardous Waste E-Manifest

The EPA developed the Hazardous Waste Electronic Manifest (e-Manifest) System to aid in the cradle-to-grave tracking of hazardous waste.[a] EPA identified the following benefits of the e-Manifest system:

- Cost savings,

- Accurate and more timely information on waste shipments,

- Rapid notification of discrepancies or other problems related to a particular shipment,

- Creation of a single hub for one-stop reporting of manifest data for use by EPA and states,

- Increased effectiveness of compliance monitoring of waste shipments by regulators, and

- Potential for integrating manifest reporting with the Resource Conservation and Recovery Act (RCRA) biennial reporting process and other federal and state information systems.

The development and maintenance costs of the e-Manifest system is offset by user fees charged to hazardous waste manifest users.

While the goal of the EPA e-Manifest system is related to this DOT-led electronic hazard communication project, there are substantial differences. First, the e-Manifest system is not designed to provide information to emergency response organizations during a hazardous material transportation incident, which is a primary purpose of DOT hazard communication documents. Also, DOT has no legal authority to charge user fees for an electronic hazard communication system. Finally, hazardous wastes are only a small subset of the approximately 1.2 million hazardous materials shipments that transit the United States every day. Despite these differences, the successful implementation of the e-Manifest system is an instructive example for transitioning from a paper-intensive process to a national electronic manifest system.

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[a] https://www.epa.gov/e-manifest

DOT Special Permits

PHMSA safely allows technological innovation through its special permit program. Special permits set forth requirements for performance of functions not otherwise allowed by— or a variance to—the requirements of the HMR. These functions must either (1) achieve an equivalent level of safety to that required under the regulations, or (2) if a required safety level does not exist, do so in a manner consistent with the public interest. PHMSA's Approvals and Permits Division is responsible for the issuance of DOT special permits in accordance with the requirements of 49 CFR part 107, subpart B.

The HMR often include performance-based standards that provide the regulated community with some flexibility in meeting safety requirements. Even so, not every transportation situation can be anticipated and covered under the regulations. The hazardous materials community is at the cutting edge of development of new materials, technologies, and innovative ways of moving hazardous materials. Special permits provide a mechanism for testing new technologies, promoting increased transportation efficiency and productivity, and ensuring economic competitiveness without compromising safety. In this way, they allow the hazardous materials industry to integrate new products and technologies into production and the transportation stream safely, quickly, and effectively.

PHMSA has issued several DOT-SPs in recent years related to the maintenance of hazard communication information in an electronic format. For rail transportation, PHMSA issued DOT-SPs which permit train crews to maintain the train consist (required by § 174.26) on an electronic device (e.g., a smartphone or tablet) carried by the train crew in the locomotive cab, and to transmit the train consist information electronically to emergency responders or other authorized Federal, state, or local officials in the event of an incident, accident, or inspection. These SPs include:

- DOT-SP 20954 to BNSF Railway Company,
- DOT-SP 21053 to Canadian National Railway Company,

- DOT-SP 21046 to CSX Transportation,

- DOT-SP 21059 to Union Pacific, and

- DOT-SP 21110 to Norfolk Southern.

For highway transportation, PHMSA issued DOT-SP 15747 to United Parcel Service (UPS). Under this SP, the physical shipping papers and emergency response information can be replaced with a document instructing responders to call a specific phone number and provide the trailer's unique identification number. The call center is then required to provide shipping papers and emergency response information in a single electronic transmission within five (5) minutes. The types and quantities of hazardous materials authorized for transportation in accordance with DOT-SP 15747 are limited, and do not encompass all, or even most, types and quantities of hazardous materials transported by highway in the United States.

HM-ACCESS

The John A. Volpe National Transportation Systems Center (Volpe Center) conducted the Hazardous Materials Automated Cargo Communications for Efficient and Safe Shipments (HM-ACCESS) project from 2011-2015 and issued a report to Congress on behalf of PHMSA in 2016. The HM-ACCESS project consisted of consultation with stakeholders; pilot tests with hazardous materials offerors, carriers, inspectors, and emergency responders; and a survey of stakeholders. HM-ACCESS determined that many shippers and carriers in the rail, vessel, and air modes already have electronic systems in place that could be used to accept and transmit hazard communication information. Highway shippers and carriers are a more complex, heterogeneous group, so not all entities would be able to accept and transmit hazard communication information.

Since rail and air modes already utilize electronic systems, most inspectors who perform compliance inspections at rail and air transportation facilities have electronic devices that can receive and display hazard communication information. Inspectors who conduct container inspections in port areas before and after vessel transportation were found to have more limited

access to electronic devices. Many highway inspectors who conduct motor vehicle inspections have electronic devices in their vehicles that could be used to receive and display electronic hazard communication information. However, the readiness of highway inspectors to utilize electronic hazard communication is less certain due to the lower usage rate of electronic systems by highway carriers and potential connectivity issues.

The report found that professional emergency responders in urban areas generally have access to electronic devices capable of receiving and displaying hazard communication information, as well as high confidence that their response areas are covered by data networks without connectivity issues. But volunteer organizations, especially those in rural areas, may lack both the required systems and necessary data connectivity. These rural and volunteer organizations would potentially need to rely upon hazard communication relayed via voice-only communication from their dispatcher, if a physical hazard communication document was not available at the scene of an incident.

The HM-ACCESS report found that the implementation of a performance-based electronic hazard communication standard could provide safety and economic benefits, but these benefits would depend on numerous variables. Potential safety benefits identified in the report include more timely provision of information during an emergency, increased accuracy of hazard communication, increased redundancy if the electronic system provides multiple methods of information access, and improved access to hazard communication information away from the vehicle involved. The report found that the economic costs and benefits of implementation are likely to vary across different modes, and would depend on the size of the company involved, previous investments made to electronic systems, the range of hazardous materials involved, and the complexity of the system, among other factors.

HazSMART Research Project

PHMSA funded the HazSMART research project and received a final report from Factor, Inc. and Spill Center, Inc. in 2020. The objective of HazSMART was to develop and deploy

technologies that could connect hazardous materials transportation industry stakeholders during scenarios in which sharing hazard and shipment information is needed to protect public health and safety, such as in hazardous materials incidents. The project developed a central platform for management of shipping, transport, geographic information systems, and incident data. The HazSMART platform included a response dashboard, which provided protective action distances to emergency responders and other authorized stakeholders. While the HazSMART project was not intended to develop an electronic hazard communication standard, participants in an exercise with emergency responders noted that the technologies developed in the HazSMART project have the capability to receive, send, and display required shipping paper elements and could be further developed into an electronic hazard communication system.

Transport Canada (TC) Regulatory Sandbox on Electronic Shipping Documents

Since early 2020, TC has authorized a pilot project to evaluate electronic hazard communication for highway, rail, and air hazardous materials transportation. This pilot project, known as the "Regulatory Sandbox on Electronic Shipping Documents," was conducted by three rail carriers, three highway carriers, and one Unmanned Aerial Systems carrier in accordance with Equivalency Certificates (ECs) issued by Transport Canada. The ECs authorize each carrier to maintain and transmit shipping paper information in an electronic format, subject to the limitations and conditions of each EC. Important features of the Transport Canada ECs include standardized vehicle markings and redundant electronic hazard communication systems, able to provide necessary information to emergency responders in multiple formats.

III.   Questions

PHMSA requests information on the implications of authorizing electronic hazard communication. For the purpose of this RFI, paper "hazard communication" means shipping papers, train consists, dangerous goods manifests, notifications to the pilot in command, and emergency response information, as well as associated administrative documentation including

DOT-SPs, approvals, and registrations. The questions below are divided into two sections: Section A for emergency response and inspection organizations, and Section B for organizations who offer, transport, or facilitate the movement of hazardous materials. PHMSA requests that you provide as much information as possible and answer as many of the questions as applicable.

We encourage trade associations, labor unions, and other organizations that represent companies and workers in the emergency response, hazardous materials inspection, hazardous material transportation, and technology fields to respond as well. If you represent such an organization, please choose the appropriate section; for the "Identification" questions, briefly describe the types of companies and workers that your organization represents.

A. Emergency Response Community and Authorized Officials

Note: In this section, the terms "inspectors" and "inspection organizations" refer to any local or state entity that is authorized to receive and review shipping paper records, but does not typically respond to incidents, accidents, or other hazardous material transportation emergencies.

1. Identification
    a. What type of inspection or emergency response organization do you represent (e.g., law enforcement, fire and rescue (including volunteer), emergency medical services, specialized hazardous materials incident response organization, transportation and public works, towing and recovery, etc.)?
        i. What level of hazardous materials response training do you have?
        ii. For emergency responders, do you rely on outside support (e.g., state, federal, contract organization) for hazardous materials incident response? Please explain.
        iii. Approximately how many employees work in your response or inspection organization?

b. Which description below best describes your typical response or inspection area population density and layout?

   i. Urban

   ii. Rural

   iii. Suburban

   iv. Not applicable (Varies widely; not limited to a specific geographic location.)

2. Background (Responsibilities and Capabilities)

   a. Please list or identify any major transportation hubs that handle hazardous materials (e.g., airports, ports, rail yards) or routes (e.g., interstate highways, rail corridors) contained in your response or inspection area.

   b. For responders, how many incidents involving hazardous materials transportation do you respond to per year, on average? What percentage of your total annual responses is this?

   c. For inspectors, how many hazardous materials compliance inspections or investigations do you conduct per year, on average?

   d. Approximately what percentage of your response or inspection area is covered by a wireless technology network that supports portable electronic devices capable of communications, data processing, and/or computing?

   e. Approximately what percentage of your response or inspection area is covered by a voice-only radio network?

   f. Does your organization currently issue, or do persons in your organization have access to, portable electronic devices in vehicles capable of:

   (1) receiving and displaying hazard communication information?

   (2) accessing the internet consistently during a response or inspection?

      i. If yes to either, describe the types of devices. Are they available to all persons or units, or only a subset?

ii. If yes to either, do you currently use an electronic system to receive and display electronic hazard communication that specifically identifies the hazardous materials present in a transport vehicle or container? If so, please identify and describe the system, especially how the data is received and transmitted.

iii. If no to either, are there budgetary or other constraints that would prevent you from upgrading your equipment to accommodate an electronic hazard communication system? Please describe.

3. Responding to a Hazardous Materials Incident (Needs and Systems)

Note: Inspectors, please see the next section (Section 4)

a. What additional hazard communication information would aid in emergency response, beyond what is currently required in the HMR? What currently required hazard communication information is unnecessary for emergency response? Please provide detailed examples.

b. How often are paper-based hazard communication documents inaccessible during a hazardous materials incident response? What are the reasons for this inaccessibility? What steps are taken to obtain needed information if the document is not available during an incident?

c. Do you use existing system(s) designed to provide electronic information to emergency responders arriving at a scene? And if so, which system(s)? Could these systems be adapted for use in transmission of hazard communication information?

d. What role do dispatchers play in obtaining hazard communication information in an incident response for your organization? Do you experience difficulties in relaying information from a dispatcher to responders at a scene? If yes, please explain.

    e.   What are the differences in type, format, and content of hazard communication you need to respond to incidents in different modes (e.g., highway versus rail, vessel, aircraft at airport)?

    f.   To respond appropriately to an incident involving mixed freight and less than truckload (LTL) in the highway mode, do you need additional information on the non-hazardous materials that are being transported alongside the hazardous material?

    g.   Are you concerned that increased reliance on electronic devices for emergency response purposes would create a distraction during emergency responses? Why or why not?

4. Conducting a Hazardous Materials Inspection (Needs and Systems)

Note, emergency response organizations, please see previous section (Section 3)

    a.   What additional hazard communication information would aid in inspections, beyond what is currently required in the HMR? What currently required hazard communication information is unnecessary for inspection? Please provide detailed examples.

    b.   How often are paper-based hazard communication documents inaccessible during a hazardous materials inspection? What are the reasons for the lack of information availability? What steps do you take if documents are not available during an inspection?

    c.   Do you currently use electronic systems for inspections unrelated to hazardous materials and/or hazardous material inspections? If so, please describe. Could systems non-hazardous material inspections be adapted to enhance hazardous material inspections? If so, please describe.

    d.   Are you concerned that increased reliance on electronic devices for inspection purposes would create a distraction during the inspection? Why or why not?

5. Preferences for an Electronic Hazard Communication Alternative

a. How would you like to receive hazard communication documents if electronic transmission were permitted? What format or means would best suit your organization's current equipment and capabilities?

b. What format or means would you prefer for the electronic transmission of hazard communication, if there were no limitations on cost or capabilities?

c. Should the information content and format for electronic hazard communication be standardized across all modes, to facilitate recognition in an emergency or inspection?

d. Do you have any recommendations for communicating that electronic hazard communication is in use, such as a standardized visual aid (e.g., a marking or placard) on the exterior of the transport vehicle or container, or other means?

e. What is your preference for how electronic hazard communication documents should be maintained, transmitted, and overseen?

f. What additional costs, if any, would there be for your organization to successfully utilize electronic hazard communication (e.g., new electronic devices, upgraded data plans, and training)?

g. Are there certain scenarios in which electronic hazard communication should not be allowed? If so, please provide examples.

h. Approximately how much preparation time would your organization need to be capable of using electronic hazard communication during a hazardous materials incident response or inspection?

i. Do you anticipate new training needs to enable the use of electronic hazard communication? If so, please describe. In particular, describe challenges any new training would pose for your organization.

6. Potential Benefits

   a. Are there benefits for having hazard communication available electronically? Do you have any data that can help us quantify your input? How could benefits be maximized over paper-based hazard communication requirements?

7. Potential Concerns

   a. What concerns do you have regarding the use of an electronic hazard communication system in place of paper-based hazard communication?

   b. What concerns do you have regarding the reliability of a wireless technology network in your response or inspection area? How should access to hazard communication be maintained in situations where area utilities are disabled? Should persons who use an electronic system be required to maintain a backup or redundant system?

   c. What concerns do you have regarding the interoperability of equipment maintained by local/county organizations versus state/federal organizations?

   d. What concerns do you have regarding import shipments into the United States having access to an electronic hazard communication system?

   e. What concerns do you have regarding the security of electronic hazard communication?

8. Overall Perspective and Input

   a. Do you support the use of electronic hazard communication as an alternative to the current paper requirements? Please provide your reasoning.

   b. Are there any specific knowledge gaps or areas of concern that the Department of Transportation should address, via additional information-gathering or research, before authorizing electronic hazard communication on a broad basis?

   c. Is there any additional information that you would like to provide to the Department of Transportation for consideration in the development of an electronic hazard communication standard?

B. Hazardous Materials Shippers, Carriers, and Logistics Facilitators

1. Identification

    a. Please provide a general description of your business activities as related to the transportation of hazardous materials (e.g., less than truckload (LTL) highway carrier, bulk chemical shipper, third-party logistics company, trade association, labor union, technology provider, etc.). If you are responding on behalf of a trade association, labor union, or other organization, please answer for your entire membership, if possible.

    b. In which mode(s) (highway, rail, vessel, air) do you offer, transport, or facilitate the movement of hazardous materials? Please identify all modes utilized if multi-modal.

    c. Please estimate the number of hazardous materials shipments you offer, transport, or provide third-party facilitation for, per year.

    d. Please identify the classes, divisions and quantities (bulk, non-bulk, or both) of hazardous materials you offer, transport, or for which you provide third-party facilitation.

    e. How many people does your company employ? Is your company (or the companies you represent) a small business, as defined by the Small Business Administration (SBA)?

    f. What percentage of your business involves the offering, transportation, or third-party facilitation of hazardous materials shipments?

    g. Do you offer, transport, or provide third-party facilitation for hazardous materials transportation solely within a single state, between states, or internationally? Do the shipments you offer, transport, or facilitate cross through urban, rural, or suburban areas? Please identify all that apply.

2. General Participation

a. Would you consider implementing electronic hazard communication if the HMR authorized it as an option? Why or why not? What factors would you consider in your determination? Have you analyzed the developmental and deployment costs with the safety benefits? If so, please share any available data.

b. What value could you gain by using electronic hazard communication? What benefits—financial, organizational, safety, etc.—could you obtain by implementing electronic hazard communication?

c. Would you be more likely to adopt electronic hazard communication if the hazard information was maintained and transmitted utilizing a:

    i.   central DOT or other government agency-run repository

    ii.   central third-party run repository

    iii.   performance-based, individual shipper/carrier-based standard

    iv.   another option (please describe)?

d. If a centralized database was used to maintain and transmit hazard communication information, do you have any concerns with DOT/other government agencies having permanent, historical access to the database, rather than having access only during transportation?

e. To what extent would you participate in an electronic hazard communication alternative that was not fully multi-modal (i.e., not all modes are authorized for electronic hazard communication)? How high of a priority should it be for electronic hazard communication to encompass all modes? Which modes should be the highest priority?

f. To what extent would you use electronic hazard communication if the applicability for the electronic standard was limited to bulk transport of hazardous materials (i.e., not permitted for LTL and non-bulk shipments)? How high of a

priority should it be for electronic hazard communication to encompass all quantities of hazardous materials shipments?

g. Do you anticipate resistance from other entities in the hazardous materials supply chain, if you decide to adopt electronic hazard communication? If yes, please describe.

h. How would implementation of electronic hazard communication by other entities in the supply chain affect your ability to conduct your business activities if you choose to continue to operate using a paper-based concept of operations?

3. Operational and Economic Considerations

a. Do you have access to the electronic equipment and software systems required to accept, transmit, and update electronic hazard communication? Are there scenarios in which you would not? How costly would it be to acquire the necessary equipment and software systems?

b. What additional costs would there be for you to successfully utilize an electronic hazard communication system, beyond equipment procurement (e.g., electronic infrastructure maintenance, training, acquisition of resources)?

c. To what extent do you currently accept or generate electronic shipping documents and utilize electronic systems for non-hazardous material shipments or operations?

d. What electronic systems, if any, do you utilize for shipment tracking, segregation, and consolidation of separate hazardous material shipping papers into a single dangerous goods (DG) manifest or other shipping document?

e. If applicable, describe the capabilities of the electronic systems you use today. What is their potential for adaptation for electronic hazard communication?

f. To what extent would your information technology (IT) infrastructure be capable of providing electronic hazard communication capabilities to your employees, as well as emergency response organizations and inspectors, without delay?

g. If not currently capable, could you develop the necessary IT infrastructure to accept and transmit electronic hazard information? Please provide a cost estimate, if possible.

h. Should PHMSA require standardized information content, format, and electronic data interchange protocol for electronic hazard communication information?

i. What time and cost savings could be gained if electronic hazard communication information was authorized?

j. Do you use paper hazard communication documents for other purposes (e.g., delivery receipts)? Could electronic hazard communication facilitate more efficient use of this documentation?

k. Are there internal technological, administrative, or cultural challenges your organization would have to overcome to implement electronic hazard communication?

l. Do you think adopting electronic hazard communication would positively or negatively impact small businesses? Please explain.

m. For international shipments, are there additional barriers to implementing electronic hazard communication? If yes, please describe.

n. Are there any concerns, issues, or potential benefits related to electronic hazard communication that have not been addressed elsewhere in this RFI? Is so, please discuss.

4. Security and Privacy

a. Do you have any security concerns related to electronic hazard communication, particularly the storage of electronic data outside of your company systems?

b. Despite the potential benefits, are your security concerns so extensive that you would not be willing to participate in electronic hazard communication? Please explain.

    c.   Is there any information contained on your paper-based hazard communication documents that you consider proprietary, or otherwise have privacy/business competition concerns with sharing?

    d.   In what ways could necessary emergency response and hazard communication information be stored in an electronic system separate from the proprietary information described above?

5. Implementation

    a.   What is your ideal concept of operations for electronic hazard communication?

    b.   Would it be beneficial to develop a single, industry-standard hazard communication information input system accessible to shippers, carriers, emergency responders, and inspectors across all modes? Please explain.

Signed in Washington, DC on July 6, 2022, under authority delegated in 49 CFR 1.97.

William S. Schoonover,
Associate Administrator for Hazardous Materials Safety,
Pipeline and Hazardous Materials Safety Administration.

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